

REMARKS

Claims 1, 3, 6, 12, 19, and 25 have been amended. Claims 26-31 have been added. Claims 1-29 therefore are pending and are presented for review.

In the Office Action dated October 3, 2003, claims 1-11 and 19-24 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. No. 5,480,589 to Belser et al. Claims 1-6, 8, and 25-31 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. No. 5,062,548 to Hedderick et al.

As will become more apparent from the discussion of the individual claims below, the invention relates to a remarkably simple and effective device for reducing the pressure of a liquid flowing through a line so as to achieve a desired pressure at the downstream end of the device. The invention additionally relates to a pressurized liquid dispensing system using such a pressure reducer to obtain the desired pressure at a dispenser of the system. The system reduces pressure by imparting directional changes to the liquid, preferably by splitting the liquid into divergent streams and then recombining the divergent streams. A device suitable for this purpose is of the type commonly used to mix two different substances together. However, and very significantly to the invention, the invention does *not* relate to a mixing device. Indeed, it is not configured to mix two fluids together at *all* but, instead, is configured to modulate the pressure of a single liquid flowing therethrough by subjecting the flowing liquid to a series of directional changes.

Applicant's invention is particularly (but by no means exclusively) well suited for use with a liquid, such as carbonated liquid, having an entrained gas. Carbonated liquids are stored under high pressure to prevent a loss of carbonization. This pressure is too high for a proper

dispensing velocity of the carbonated liquid. The pressure must therefore be reduced in order to reduce the velocity to beneath a level at which the dispensed liquid is undesirably frothy. The inventive restrictor permits a carbonated beverage dispensing system or similar system to reliably dispense the liquid at a desired velocity without having to incorporate long sections of excess fluid line into the system to introduce artificial head losses into the system. See, e.g., page 1, line 20 through page 2, line 2; page 2, line 20 through page 3, line 4, and page 11, lines 1-15 of the present application.

Rejection of Claims 1-11 and 19-24 under 35 U.S.C. § 102(b)

Claims 1-11 and 19-24 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. No. 5,480,589 to Belser et al. Applicant believes that Belser does not disclose Applicant's invention as claimed in claims 1-11 and 19-24 for at least the following reasons.

Belser discloses a foam mixing system, not a pressure reducing system. The Belser device is used to mix multiple components from multiple sources. See FIG. 2. Specifically, the Belser device is used to mix a polymer and a gas together to produce high quality foams such as adhesives, sealants and caulks. See Column 8, lines 20-31. The Belser device accomplishes this mixture through the use of an apparatus 10 containing a static mixer 3. See Column 5, lines 35-50. A polymer and a gas are introduced into apparatus 10 and travel across the static mixer 3. See Column 5, lines 35-50. The flow of these two components through the static mixer 3 causes them to mix together into high quality foam. See Column 5, lines 35-50. Specifically, "[t]he static mixer 3 delivers a solution of the polymer and gas to a dispensing gun 20 after receiving and mixing liquid polymeric material and gas, respectively, from a bulk material source 22 and a

gas supply 24.” See Column 5, lines 42-46. Belser does not disclose or even suggest any other uses of the static mixer or foam mixing system disclosed therein.

Applicant’s invention as recited in apparatus claims 1-11 and method claims 19-24 does not mix, nor involve the mixing of, any liquids, gases, or other components. For instance, claims 1, 6, and 19 as amended specify that the restrictor housing receives a *single* liquid. In addition, claims 1, 6, and 19 all specify that that the pressure drop takes place without mixing the single liquid with any other substance. In sharp contrast, *the entire* purpose of Belser’s device is to mix *two* materials to produce a foam. Any pressure drop is seen only as an undesired byproduct of the mixing. Hence, Belser not only fails to anticipate the claims, but actually teaches strongly away from the claimed invention.

Rejection of Claims 14-18 under 35 U.S.C. § 102(b)

Claims 14-18 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. No. 5,062,548 to Hedderick et al. Applicant believes that Hedderick, either alone or in combination with any other cited patents, does not teach or suggest Applicant’s invention as claimed in claims 14-18 for the following reasons.

Claim 14 specifies a procedure for setting up a restrictor to achieve a desired restriction in a *liquid* flow path. As such, claim 14 specifies that restrictor properties be determined so as to achieve a desired pressure drop in the resulting system and that a restrictor having those properties then be inserted in the flow path.

Hedderick not only fails to disclose the claimed determination step, but even fails to disclose a restrictor in a *liquid* flow path. It instead merely discloses a device for adding pressurized gas to a liquid. The Hedderick device has a gasifying unit 11 incorporated into the

supply pipe 5. See Column 4, lines 27-30. Gas is forced into the liquid as the liquid travels around the gasifying unit 11. See Column 3, lines 16-23. Specifically:

The gasifying unit 11 has a housing 13 within which is formed an air chamber 14 communicating with an air pipe 15. Air under pressure is introduced into chamber 14 by way of the pipe 15 from an air pump 16 having an air intake 17 and driven by the motor 9 simultaneously with the beverage pump 8.

Column 4, lines 41-46.

The Examiner apparently has misconstrued the function of Hedderick's restrictor. The only restrictor within the gasifying unit is a capillary restrictor 18. However, the capillary restrictor 18 restricts only gas flow, *not* liquid flow. More specifically, gas is introduced into the inlet 19 of restrictor 18 at a relatively high pressure, and then exits the outlet 20 at a lower pressure *before* being injected into the liquid stream. Importantly, any contact whatsoever between the liquid and the restrictor 18 is prevented by a non-return valve 21 that permits gas flow into the liquid from the restrictor 18 but that prevents return liquid flow therethrough. See, e.g., Col. 4, lines 58 et. seq. and Col. 5, lines 29-46. Hence, claim 14 is novel of Hedderick for this reason alone.

Moreover, contrary to the Examiner's assertions, "consulting tabulated data correlating pressure drops with reducer properties" is *not* inherent in the construction of Hedderick's gasifier. Even if a particular pressure drop is desired, it could be determined by trial and error rather than by consulting tabulated data. Claims 14-18 are not anticipated for this additional reason.

Supplemental Information Disclosure Statement

Applicants have recently become aware of additional patent literature not contained in the Information Disclosure Statement filed November 6, 2001, the Supplemental Information Disclosure Statement filed June 18, 2003, or cited or made of record by the Office in the Office Action dated October 3, 2003. Applicants have enclosed a Supplemental Information Disclosure Statement listing such literature marked as Exhibit A.

Applicants were first made aware of this literature in an International Search Report from the European Patent Office for the PCT version of this application, International Application No. PCT/US02/35682. This International Search Report was mailed October 6, 2003 and received by Applicant on October 14, 2003. As such, Applicants make the following statement under 37 C.F.R. § 1.97(e):

Each item of information contained in the information disclosure statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the statement.

Petition for Joint Representation

The above referenced application is currently jointly owned by Perlick Corporation ("Perlick") and Vent-Matic Co., Inc. ("Vent-Matic"). Perlick and Vent-Matic are currently involved in a series of disputes over a variety of issues, including an active lawsuit. In light of this hostile situation, Perlick and Vent-Matic have decided that each party should have separate representation in prosecuting this application. To that end, Perlick and Vent-Matic filed a Petition for Joint Representation under 37 C.F.R. § 1.182 on March 28, 2003. A copy of this Petition is enclosed herewith as Exhibit B. The Petition designates the law firm of Godfrey &

Kahn, S.C. as Perlick's representative and the law firm of Boyle, Fredrickson, Newholm, Stein & Gratz ("Boyle") as Vent-Matic's representative. The Petition also requests that all correspondence be directed to Godfrey & Kahn at the address below. The Office Action dated October 3, 2003 was directed to Boyle. Applicants respectfully request that the Office indicate the status of the Petition and direct all future correspondence to Godfrey & Kahn.

New Claims

New claims 26 and 27 depend from claims 1 and 6, respectively, and both specify that the restrictor housing has only a single inlet. In sharp contrast, the Belser patent relied upon for the rejection of claims 1 and 6 must necessarily have multiple inlets to receive the two separate fluids (polymer and gas) to be mixed.

New claim 28 is generally commensurate in scope with new claims 26 but is specific to a dispensing system for dispensing a liquid having a gas entrained therein. It also specifies that the restrictor is configured to impart a pressure drop to liquid flowing therethrough so as to achieve a designated velocity through the dispenser. As explained above and in the present application, this ability to set a restriction to obtain a designated velocity through the dispenser is highly beneficial when dispensing beverages to liquids having gases entrained therein such as carbonated beverages. This capability is neither expressly nor inherently disclosed in the Belser patent.

New claim 29 depends from claim 28 and further specifies that the liquid is a carbonated beverage.

New claims 30 and 31 generally correspond to claims 14 and 19, respectively. However, like claim 29, they both relate to the production or use of a system for dispensing carbonated

beverages. In addition, claim 31, like claims 28 and 29, requires that the restrictor achieve a designated velocity and that the beverage be dispensed at that designated velocity.

Allowable Subject Matter and Conclusion

The Office Action also indicated that dependent claims 12, 13, and 25 would be allowable if rewritten in independent form. Applicant received this suggestion with appreciation. Applicant has rewritten claims 12 and 25 in independent form including all of the limitations of the base claim and any intervening claims. No new matter has been added in rewriting claims 12 and 25. Claim 13 depends from claim 12 and thus is patentable based on the limitations contained therein as well as those in the base claim.

A check in the amount of \$269 is enclosed in payment of the fees by a small entity for submission of 1) 6 additional claims in excess of 20 (\$54) and 2) 5 independent claims in excess of three (\$215) not previously paid for. No other fee is believed to be payable with this communication. Nevertheless, should the Examiner consider any other fees to be payable in conjunction with this or any future communication, the Director is authorized to direct payment of such fees, or credit any overpayment to Deposit Account No. 50-1170.

In view of the amendments and remarks presented herein, it is respectfully submitted that claims 1-31 are in condition for allowance and reconsideration of same and prompt notice of allowance is respectfully requested. Applicants submit that no new matter has been added to the application by the present amendments and requests that the Examiner telephone the undersigned in the event a telephone discussion would be helpful in advancing the prosecution of the present application, particularly before the issuance of a final rejection.

Respectfully submitted,

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